IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A resistance-type oxygen sensor with suppressed temperature dependence, ~~wherein~~ comprising:

(1) a gas detection unit composed of an oxide semiconductor with a resistance value varying according to temperature and ~~the~~ an oxygen partial pressure of atmospheric gas and a temperature compensation unit composed of a conductor with suppressed dependence of a resistance value on oxygen partial pressure are connected in series;

(2) said ~~temperature compensation unit~~ conductor is ~~composed of~~ an oxygen ion conductor; and

(3) an electrode for electric contact with said temperature compensation unit is exposed to the atmospheric gas and is a porous body.

2. (Original) The resistance-type oxygen sensor according to claim 1, wherein a unit with a temperature dependence similar to that of the gas detection unit is used as said temperature compensation unit.

3. (Original) The resistance-type oxygen sensor according to claim 1, wherein a unit with a temperature dependence identical to that of the gas detection unit is used as said temperature compensation unit.

4. (Original) The resistance-type oxygen sensor according to claim 1, wherein the oxide semiconductor, which is said gas detection unit, is cerium oxide or a composite oxide comprising cerium oxide as the main component.

5. (Original) The resistance-type oxygen sensor according to claim 1, wherein the oxygen ion conductor, which is said temperature compensation unit, is a composite oxide comprising cerium oxide as the main component.

6. (Canceled)

7. (Currently Amended) An oxygen sensor device comprising the resistance-type oxygen sensor according to any one of claims 1 to [[6]] 5 as a structural element.

8. (Original) The oxygen sensor device according to claim 7, comprising means for applying a constant voltage and means for measuring a voltage.

9. (Currently Amended) An air/fuel ratio feedback control system for controlling the air/fuel ratio of a combustion engine, which comprises the resistance-type oxygen sensor according to any one of claims 1 to [[6]] 5 as a structural element.

10. (Original) The air/fuel ratio feedback control system according to claim 9, which controls the air/fuel ratio for automobiles.

11. (Currently Amended) A system for detecting the automobile exhaust gas catalyst degradation, which comprises the resistance-type oxygen sensor according to any one of claims 1 to [[6]] 5 as a structural element.

12. (Currently Amended) A resistance-type oxygen sensor comprising an oxygen gas detection unit composed of an oxide semiconductor and a substrate as structural elements,

wherein the oxide semiconductor is an oxide comprising cerium ions and zirconium ions and the ratio of amount of substance of zirconium ions to a sum total of amount of substance of cerium ions and zirconium ions is 0.5-40 mol %, and

wherein a resistance value at a temperature of 800°C is 20 Ωm or less, and resistivity is proportional to 1/n power of oxygen partial pressure at a temperature of from 600°C to 900°C, where n is a number from 4 to 5.5.

13. (Original) The resistance-type oxygen sensor according to claim 12, wherein the ratio of amount of substance of zirconium ions to a sum total of amount of substance of cerium ions and zirconium ions is 5-40 mol %.

14. (Canceled)

15. (Currently Amended) The resistance-type oxygen sensor according to any one of

claims 12 ~~through 14~~ and 13, wherein the oxygen gas detection unit composed of an oxide semiconductor is a porous thick film.

16. (Currently Amended) The resistance-type oxygen sensor according to any one of claims 12 ~~through 15~~ and 13, comprising a temperature compensation unit for suppressing the dependence of output on temperature, the temperature compensation unit being electrically connected in series to the oxygen gas detection unit.

17. (Canceled)

18. (Currently Amended) An oxygen sensor device comprising the resistance-type oxygen sensor according to any one of claims 12 ~~through 17~~ and 13 as a structural element.

19. (Original) The oxygen sensor device according to claim 18, comprising an appliance for applying a constant voltage and an appliance for measuring a voltage.

20. (Currently Amended) An air/fuel ratio feedback control system for controlling the air/fuel ratio of a combustion engine, which comprises the resistance-type oxygen sensor according to any one of claims 12 ~~to 17~~ and 13 as a structural element.

21. (Original) An air/fuel feedback control system according to claim 20, wherein the combustion engine is a combustion engine for an automobile.

22. (Currently Amended) A system for detecting the automobile exhaust gas catalyst degradation, which comprises the resistance-type oxygen sensor according to any one of claims 12 ~~to 17~~ and 13.